

Dislocation in Olivine Phenocryst in Picrite

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In order to study the nature of primary magma in Hawaii, we studied dislocation density in olivine phenocryst in Hawaiian picrites. It was found that majority of olivine in submarine Loihi picrites are of xenocrystic origin judged by their high dislocation density. On the otherhand, those in the Kilauea are divided into two categories: 1) xenocryst and 2) phenocryst with euhedral shapes and low dislocation density.